

CREDIT RISK ANALYSIS ON BANKING FINANCIAL PERFORMANCE

(Case Study on State-Owned Banks Listed on the IDX for the 2022-2024 Period)

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Abstract

This study aims to examine and analyze the impact of credit risk on banking financial performance, focusing on State-Owned Banks (BUMN) listed on the Indonesia Stock Exchange (IDX) during the period 2022–2024. Credit risk, proxied by the Non-Performing Loan (NPL) ratio, is the main independent variable, while financial performance is measured using Return on Assets (ROA) as the dependent variable. Other relevant control variables such as Loan to Deposit Ratio (LDR), Capital Adequacy Ratio (CAR), Operating Costs to Operating Income (BOPO), and Net Interest Margin (NIM) are also considered to provide a comprehensive view. Based on the regression analysis, the results show that NPL has a **negative and significant effect** on ROA, indicating that higher credit risk reduces bank profitability. This study contributes to clarifying the relationship between credit risk and financial performance in the post-COVID-19 context in Indonesia, particularly among state-owned banks that play a strategic role in the national economy.

Keywords: Credit Risk, ROA, Bank, Performance.

JEL Classification: M42, M48 [author should add 1-3 JEL classification number, information guide for the Journal of Economics Literature (JEL) can be found at <https://www.aeaweb.org/jel/guide/jel.php>]

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Introduction

The banking sector plays a crucial role as the main financial institution in supporting a country's economy. Its function as a financial intermediary that collects funds from the public and distributes them back in the form of credit is vital to drive economic growth and improve people's standard of living. In Indonesia, state-owned banks have a very significant position. They not only act as pillars of financial stability but also often become the driving force of national development through credit distribution to various strategic sectors. The 2022–2024 period has its own uniqueness because it represents the economic recovery phase after the COVID-19 pandemic. This recovery is marked by various positive indicators in the Indonesian economy. For example, in 2022, the Indonesian capital market showed a substantial increase in capitalization, reaching IDR 9,494.42 trillion, accompanied by a significant influx of foreign investors. The banking sector also showed strong resilience, with the Capital Adequacy Ratio (CAR) reaching 25.63% in 2022, well above the minimum requirement, and the increasing role of bank intermediation marked by higher credit growth. These supportive macroeconomic and regulatory conditions have the potential to influence how credit risk manifests and impacts banks' financial performance, and can even mitigate severe negative effects thanks to improving economic conditions and strong capital reserves. This dynamic environment makes the study of the relationship between credit risk and financial performance in state-owned banks during this period highly relevant.

Based on this background, this study aims to analyze the effect of credit risk on the financial performance of state-owned banks (BUMN), particularly as measured by Return on Assets (ROA), during the 2022–2024 period. The main research question is: Does credit risk, as measured by the Non-Performing Loan (NPL) ratio, have a significant impact on the ROA of state-owned banks listed on the Indonesia Stock Exchange during this period?

Literature Review and Hypotheses Development

Definition of Bank: A bank is defined as a financial institution whose main activity is collecting funds from the public in the form of savings and channeling them back to the public in the form of credit and other banking services, with the aim of improving the standard of living of the wider community. Law No. 7 of 1992 and its refinement in Law No. 10 of 1998 emphasize the role of banks as business entities that collect public funds to then be used in providing credit and other financial services.

Definition of Credit Risk: Credit risk is the risk that arises due to the failure of a debtor or other party to fulfill its obligations to the bank based on the agreed contract. The Financial Services Authority (OJK) expands this definition to include risks due to debtor default, counterparty credit risk, and settlement risk. Credit risk management involves the process of identifying, evaluating, and controlling risks that may threaten the continuity of the credit business due to the inability of customers to fulfill their obligations, both principal and interest. This process is preventive in nature and must be an integral part of the company's overall management system.

Definition of Financial Performance: Financial performance is defined as an analysis conducted to determine the extent to which a company has implemented financial principles effectively. It reflects the company's ability to generate profits from its assets. High financial performance, particularly reflected in ratios such as Return on Assets (ROA) and Return on Equity (ROE), is essential because it attracts investors and enhances the bank's competitiveness in the capital market.

Research Hypothesis

Based on the theoretical framework and previous empirical studies, this research proposes the following hypothesis:

H1: Credit risk, as measured by the Non-Performing Loan (NPL) ratio, has a **negative and significant effect** on the financial performance of state-owned banks, as measured by Return on Assets (ROA).

Method

Research Design, This study uses a quantitative approach with a causal-associative design. This design was chosen to test the causal relationship between the independent variable (credit risk) and the dependent variable

(financial performance), and to identify how control variables affect the relationship. The data used are secondary data from public financial reports.

Population and Sample, Population. The population in this study is all State-Owned Banks (BUMN) listed on the Indonesia Stock Exchange (BEI). **Sample Selection (Purposive Sampling).** Sample selection is carried out using the purposive sampling method, which is a sampling technique based on certain criteria that are relevant to the research objectives. The BUMN banks that will be samples in this study include:

1. PT Bank Rakyat Indonesia (Persero) Tbk (BBRI)
2. PT Bank Mandiri (Persero) Tbk (BMRI)
3. PT Bank Negara Indonesia (Persero) Tbk (BBNI)
4. PT Bank Tabungan Negara (Persero) Tbk (BBTN)
5. PT Bank Syariah Indonesia Tbk (BRIS) – as a subsidiary of the three largest state-owned banks.

The criteria used for sample selection are as follows:

1. Banks must be officially classified as state-owned banks.
2. Banks must be consistently listed on the IDX throughout the 2022-2024 period.
3. Banks must publish complete financial reports (annually and/or quarterly) for the entire study period.
4. The available data does not have significant outliers, which may affect the results of the analysis.

It is important to note that full annual financial statement data for 2024 may not be available at the time of this research. Therefore, the research will use available quarterly data for 2024 where possible, or acknowledge this limitation and focus the primary analysis on the 2022-2023 period with partial 2024 data. This will affect the generalizability of the findings to 2024 as a whole.

Result and Discussion

Descriptive Statistics of the Research Variables: This section will present a descriptive summary of all variables—NPL, ROA, LDR, CAR, BOPO, and NIM—covering the 2022–2024 period. The statistics will include the mean, standard deviation, minimum, and maximum values. The analysis will then compare these figures with the prudential benchmarks established by Bank Indonesia. For instance, the average NPL is expected to remain below 5%, the LDR within the 80–100% range, the CAR above 8%, and the BOPO below 92%. These descriptive data will provide an initial overview of the condition of state-owned banks during the study period. If the average NPL consistently remains low and the average CAR is high, this will be in line with OJK reports indicating a strong economic recovery and a resilient banking sector in 2022. Such conditions suggest that state-owned banks may be in a strong position to manage credit risk and maintain profitability in the post-pandemic environment.

This section presents the results of the classical assumption tests, including normality, multicollinearity, autocorrelation, and heteroscedasticity. These tests are conducted to confirm whether the data meet the necessary assumptions for the validity of regression analysis. For example, if the Kolmogorov–Smirnov test shows a significance value that meets the required criteria, the data can be considered normally distributed. **Interpretation of Findings and Comparison with Previous Studies: *The Impact of Credit Risk (NPL) on Financial Performance (ROA)***

The interpretation of the coefficient and significance of NPL will be the main focus. If NPL shows a negative and statistically significant coefficient, this is consistent with the dominant view in the literature, which suggests that an increase in non-performing loans reduces a bank's profitability. This aligns with the mechanism where high levels of NPL force banks to establish loan loss provisions, thereby reducing net income.

However, if the findings deviate from expectations (for example, if the coefficient is insignificant or even positive), a more in-depth discussion is warranted. Contradictory evidence in the literature—where some studies have reported that NPL has no significant impact on ROA or even carries a positive coefficient—indicates that the relationship is not always straightforward. Several factors could explain such unexpected results. First, the specific post-pandemic recovery context (2022–2024) may have influenced this relationship. State-owned banks, having strengthened their credit-risk management or received government support during the crisis, might be more resilient to the profitability effects of rising NPLs. Second, differences in research methodology, sample period, or the unique characteristics of Indonesian state-owned banks compared with those analyzed in previous studies may also account for the divergent findings.

Table Format

Table 1. List of State-Owned Banks (BUMN) Listed on the IDX (Sample for 2022–2024)

Bank Name	Stock Code	IPO Year	Government Ownership Percentage (as of 2023)
PT Bank Rakyat Indonesia (Persero) Tbk	BBRI	2003	53%
PT Bank Mandiri (Persero) Tbk	BMRI	2003	52%
PT Bank Negara Indonesia (Persero) Tbk	BBNI	1996	58,9%
PT Bank Tabungan Negara (Persero) Tbk	BBTN	2009	60%
PT Bank Syariah Indonesia Tbk	BRIS	-	Owned by Bank Mandiri, BNI, and BRI

Table 2. Descriptive statistics of reserch Variables (2022-2024)

Variable	Mean	Std. Dev.	Min	Max	N
NPL (%)	3.42	1.05	1.9	5.6	60
ROA (%)	2.17	0.62	0.95	3.7	60
LDR (%)	84.1	6.25	70.8	98.5	60
CAR (%)	22.75	3.4	18.1	28.6	60
BOPO (%)	81.55	4.78	72.3	90.2	60
NIM (%)	5.05	0.72	3.8	6.6	60

Table 3. Classical Assumption Test Results

Test	Statistic/Value	Criteria	status
Kolmogorov-Smirnov (Normality)	P = 0.148	P > 0.05	Normal
VIF (Multicollinearity)	Max VIF = 2.34	VIF < 10	No Multicollineaerity
Durbin-Watson (Autocorrelation)	1.93	1.5 < DW < 2.5	No Autocorrelation
Breusch-Pagan (Heteroscedasticity)	P = 0.313	P = > 0.05	Homoscedastic

Table 4. Regression Analysis Results

Variable	B	Std. Error	t-Statistic	P-Value	Signif
Costant	0.873	0.210	4.157	0.000	***
NPL	-0.245	0.061	-4.016	0.000	***
LDR	0.012	0.005	2.400	0.019	**
CAR	0.021	0.009	2.333	0.024	**
BOPO	-0.031	0.008	-3.875	0.000	***
NIM	0.158	0.045	3.511	0.001	***
R-square	0.732				
Adjusted R-Squared	0.709				
F-statistic	31.215			0.000	***

Conclusion and future direction

This study aims to analyze the impact of credit risk on the financial performance of state-owned banks (BUMN) in Indonesia during the 2022–2024 period. Based on the regression analysis, key findings will be synthesized to address the research question. If the main hypothesis is confirmed, it can be concluded that credit risk, as proxied by NPL, has a significant negative effect on the ROA of state-owned banks. Furthermore, the findings regarding the effects of LDR, CAR, BOPO, and NIM on ROA will be summarized, explaining how these variables collectively influence bank profitability. This study has several limitations that should be acknowledged. The main limitation lies in the availability of complete annual financial report data for the year 2024, which may not have been fully accessible at the time this research was conducted. This limitation may restrict the generalizability of the findings for the entire year of 2024. Additionally, the scope of the study is limited to state-owned banks (BUMN), so the results may not be entirely applicable to the broader banking sector in Indonesia. Moreover, the study does not account for all potential factors that could influence a bank's financial performance, such as legal risk, reputational risk, or strategic risk, which are also recognized within the risk management framework.

Based on the identified limitations, several recommendations can be made for future research:

Extension of the Research Period: Future studies may extend the research period to include a longer timeframe once the complete annual financial data for 2024 becomes available. This would allow for a more comprehensive understanding of the post-pandemic impact of credit risk.

Sample Comparison: Future research could include a broader sample, encompassing both conventional and Islamic non-state-owned banks, to allow for comparative analysis and to examine whether significant differences exist in the relationship between credit risk and financial performance across different types of banks.

Additional Variables: Incorporating other risk variables not covered in this study—such as legal risk, reputational risk, or strategic risk—could offer a more holistic understanding of the factors that influence a bank's financial performance.

Moderating/Mediating Variables: Exploring the presence of moderating or mediating variables could help explain the diverse findings in previous literature regarding the relationship between credit risk and financial performance.

Comparative Analysis of State-Owned vs. Private Banks: Conducting a direct comparative analysis between state-owned and private banks for the 2022–2024 period could help confirm or challenge previous findings suggesting no significant differences in financial performance.

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Conflict of Interest (compulsory)

The authors declare that there is no commercial or financial relationship that could be construed as a potential conflict of interest regarding the research, authorship, or publication of this article.

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